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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,041	10/17/2003	Philip Gleason	BOC9-2003-0021 (390)	9201
40987 7590 04/09/2007 AKERMAN SENTERFITT P. O. BOX 3188 WEST PALM BEACH, FL 33402-3188			EXAMINER NG, EUNICE	
			ART UNIT	PAPER NUMBER
			2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/688,041

Applicant(s)

GLEASON ET AL.

Examiner

Eunice Ng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 9 and 21 objected to because of the following informalities: The examiner has interpreted “associated containing” as --containing--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 9 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite “automatically displaying” in the first line of the claims but it is unclear what is meant by “automatically.” The examiner has interpreted “automatically displaying” to mean --displaying--.
4. Claims 1, 9, 10, 12, 13, 21, 22 and 25, recite limitation(s) for which there is insufficient antecedent basis for the limitation(s) in the claim(s), as follows:  
  
Claims 9 and 21 recite the limitation “said automatically displaying” in the first line of the claims. The examiner has interpreted “method of claim 5” to be --method of claim 2--; and “machine-readable storage of claim 18” to be --machine-readable storage of claim 14--.  
  
Claims 1, 13 and 25 recite the limitation “the user” in lines 6, 8, and 6, respectively. The examiner has interpreted “the user” to be --a user--.

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Claim 12 recites the limitation “the text input.” The examiner has interpreted “method of claim 10” to be --method of claim 11--.

Claims 10 and 22 recite the limitation “the segment data set.” The examiner has interpreted “method of claim 9” to be --method of claim 6--; and “machine-readable storage of claim 21” to be --machine-readable storage of claim 18--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 13 and 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1, 13 and 25 recite a mathematical algorithm that does not provide a practical application that produces a useful, tangible and concrete result. (see “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility”).

Claims 2-12 and 14-24 are also rejected for failing to cure the deficiencies of the above rejected nonstatutory claims 1, 13 and 25.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 6, 9 13-15, 18-21 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki, US Patent 5,864,814 (published Jan. 26, 1999).

Regarding claims 1, 13 and 25, Yamazaki teaches a method for debugging and tuning synthesized audio (col. 22, line 28 – col. 26, line 28; Figs. 26-33), comprising the steps of:

displaying a waveform corresponding to synthesized audio generated from concatenated phonetic units; and displaying original recording containing selected phonetic unit; (col. 23, ll. 17-24, teaches “original waveform display window...synthesized waveform display window”);

displaying parameters corresponding to at least one of the phonetic units (col. 23, ll. 41-49, “correlation between the parameters on the time axis”; col. 23, line 66 – col. 24, line 43, “pitch pattern W1...pitch pattern W2 of the synthesized waveform...pitch label”; col. 25, ll. 17-32, “velocity indicating a volume; col. 23, ll. 41-49, “correlation between the parameters on the time axis”; col. 25, ll. 61-67, “change of velocity...change of pitch...manual operation”; col. 26, ll. 23-28, “parameter”; Fig. 33 illustrates the pitch/velocity for a certain phoneme, which provides a visual indication of the pitch/velocity values (displaying parameters));

receiving an editing input from the user (col. 25, line 61 – col. 26, line 16, “change of velocity...change of pitch...manual operation”); and

adjusting the parameters in accordance with the editing input (col. 25, line 61 – col. 26, line 16, “value of pitch is changed”).

Regarding claims 2 and 14, Yamazaki teaches automatically displaying the parameters responsive to a user selection of at least a portion of the waveform, the displayed parameters

correlating to the selected portion of the waveform (col. 26, ll. 29-47, “editing...basically the same processing...file as an object for editing is selected...treated as an original waveform,” if a user selects a file then he/she selects the entire waveform, at least a portion of the waveform, which is put on the display with the pitch, velocity, etc.).

Regarding claims 3 and 15, Yamazaki teaches identifying a portion of the waveform responsive to a user selection of at least one of the parameters, the identified portion of the waveform correlating to the selected parameters (col. 25, ll. 18-39, “velocity adjustment...velocity E1 in a time zone for the phoneme of ‘ka’...subdivided to velocity E11”; col. 25, ll. 61-67, “value of pitch...for each label”; Figs. 31-33; e.g. choosing the velocity for one of the phonemes to be changed identifies the corresponding phoneme/portion so that that portion of the waveform can be changed).

Regarding claims 6 and 18, Yamazaki teaches wherein the edited parameters are contained in a segment dataset (Fig. 33; col. 25, ll. 40-52, “new filing”; col. 25, line 61 – col. 26, line 28, “change of velocity...change of pitch...for each label” col. 26, ll. 29-53, “change of parameters in...original synthesized waveform...object for editing”; col. 23, ll. 1-16, “making new voice-generating information”; the information is a set of data for the voice segment (segment dataset), and is used to display the information in Fig. 33, and edits the information and the corresponding display).

Regarding claim 19, Yamazaki teaches wherein the parameters comprise at least one parameter selected from the group consisting of a phonetic unit label, a phonetic unit boundary, a

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pitch mark and a phonetic alignment (col. 23, ll. 50-62, "phoneme is set in each of spaces separated from each other with a label... 'yo' ... 'de'"; col. 35, ll. 21-43, "pitch label"; Fig. 33; the pitch label provides an indication of pitch on the display (pitch mark); phoneme labels are aligned with the waveform sections (phonetic alignment)).

Regarding claim 20, Yamazaki teaches at least one action selected from the group consisting of deleting a pitch mark, inserting a pitch mark, repositioning a pitch mark and adjusting a phonetic alignment (col. 24, ll. 6-43, "deletion of a pitch label...adding a new label...movement").

Regarding claims 9 and 21, Yamazaki teaches [displaying] a recording's waveform [containing] the phonetic unit (col. 23, ll. 8-16, "natural voice is inputted...original waveform is displayed"; Fig. 33).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 10-12, 16 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki in view of Miyatake et al.

Regarding claims 4 and 16, Yamazaki teaches wherein the edited parameters are contained in a configuration file (Fig. 33; col. 25, ll.40-52, “new filing”; col. 25, line 61 – col. 26, line 28, “change of velocity...change of pitch...for each label”; col. 26, ll. 29-53, “change of parameters in...original synthesized waveform...object for editing”; col. 23, ll. 1-16, “making new voice-generating information”).

Yamazaki fails to teach wherein the edited parameters are contained in a text-to-speech engine configuration file. However, Miyatake teaches wherein the edited parameters are contained in a text-to-speech engine configuration file (col. 1, ll. 55-62, “receives text data and edition data...synthesizes speech corresponding to the character data”; col. 4, ll. 20-44, “pauses are created”; Figs. 3-4; Miyatake teaches a visual speech synthesis editing system, like Yamazaki, and where it is used in a text-to-speech environment).

Therefore, it would have been obvious to modify the teaching elements of Yamazaki with Miyatake in order to use editing data to produce a natural sounding spoken output from text, as described by Miyatake (col. 1, ll. 55-62 and ll. 20-30).

Regarding claims 10 and 22, Yamazaki fails to explicitly teach wherein edits to the waveform adjust parameters in the segment dataset. However, Miyatake teaches this feature (Figs. 3-4, col. 4, ll. 20-36, “displayed characters are edited by the inputting means...inputting means...separate...from each other...pauses are created between”; inserting the pauses edits the waveform and adjusts the starting and ending positions [parameters] of the phonemes).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Yamazaki with Miyatake in order to



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synthesize a natural speech that is close to the way a human being speaks, as taught by Miyatake (col. 1, ll. 20-30).

Regarding claims 11 and 23, Yamazaki fails to explicitly teach wherein the synthesized audio is generated from a text input. However, Miyatake teaches wherein the synthesized audio is generated from a text input (col. 1, ll. 55-62, "receives text data and edition data...synthesizes speech corresponding to the character data"; col. 4, ll. 20-44, "pauses are created"; Figs. 3-4; Miyatake teaches a visual speech synthesis editing system, like Yamazaki, and where it is used in a text-to-speech environment).

Therefore, it would have been obvious for one ordinary skill in the art at the time the invention was made to modify the teaching elements of Yamazaki with Miyatake in order to produce a natural sounding spoken output from text, as described by Miyatake (col. 1, ll. 55-62 and ll. 20-30).

Regarding claims 12 and 24, Yamazaki fails to explicitly teach wherein the text input is received from the user. However, Miyatake teaches wherein the text input is received from the user (col. 3, ll. 5-13, "inputting means...keyboard").

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Yamazaki with Miyatake in order to use editing data to produce a natural sounding spoken output from text, as described by Miyatake (col. 1, ll. 55-62 and ll. 20-30).

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10. Claims 5, 7, 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki in view Miyatake et al., and further in view of Campbell et al. ("Campbell"), US Patent 6,366,883.

Regarding claims 5 and 17, Yamazaki teaches the edited parameters comprising at least one property selected from the group consisting of speed, base pitch, and volume (col. 25, ll. 61-67, "change of velocity...change of pitch"; col. 25, ll. 18-23, "velocity indicating a volume...manually adjusted").

Yamazaki does not teach comprising search cost function weights. However, Campbell teaches search cost function weights (see abstract, "target cost" and col. 15, ll. 28-36, "weighting coefficient"). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching elements of Yamazaki and Miyatake with Campbell because Campbell teaches an advantage is that the speech segments of the speech waveform signals in the speech waveform database can be directly utilized (col. 15, ll. 33-36).

Regarding claim 7, Yamazaki teaches wherein the parameters comprise at least one parameter selected from the group consisting of a phonetic unit label, a phonetic unit boundary, a pitch mark and a phonetic alignment (col. 23, ll. 50-62, "phoneme is set in each of spaces separated from each other with a label... 'yo' ... 'de'"; col. 35, ll. 21-43, "pitch label"; Fig. 33; the pitch label provides an indication of pitch on the display (pitch mark); phoneme labels are aligned with the waveform sections (phonetic alignment)).

Regarding claim 8, Yamazaki teaches at least one action selected from the group consisting of deleting a pitch mark, inserting a pitch mark, repositioning a pitch mark and

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adjusting a phonetic alignment (col. 24, ll. 6-43, "deletion of a pitch label...adding a new label...movement").

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Yamazaki (US 5,875,427) teaches voice-generating/document making apparatus voice-generating/document making method and computer-readable medium for storing therein a program having a computer execute voice-generating/document making sequence.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eunice Ng whose telephone number is 571-272-2854. The examiner can normally be reached on Monday through Friday, 8:30 a.m. - 5:00 p.m.

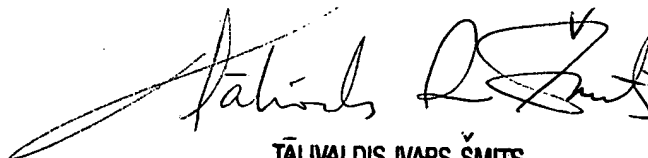
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EN

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TĀLIVALDIS IVARS ŠMITS  
PRIMARY EXAMINER